TUBERCULOSIS SCREENING GUIDELINES

Washington State Clinical Laboratory Advisory Council

GROUP 1 - HIGHEST PRIORITY. Close contacts (i.e. sharing same household or other enclosed environments) of persons who have suspected or confirmed TB. Patients with or at risk of HIV infection

Screening persons other than members of high risk groups is NOT recommended

CXR= Chest X-Ray
LTBI = Latent TB Infection
MOTT = Mycobacteria Other Than TB
PPD = Mantoux 5TU PPD
(See reverse side for interpretation of skin test results)

GROUP 2 - HIGH RISK GROUPS. Persons who inject illicit drugs. Persons with medical risk factors (i.e. diabetes mellitus; prolonged use of corticosteroids and other immunosuppressive therapy; chronic renal failure; leukemias/lymphomas; carcinoma of head/neck; weight loss of > 10% of ideal body weight; silicosis; gastrectomy; jejunoileal bypass). Residents/employees of high risk congregate setting (i.e. correctional institutions; nursing homes; homeless shelters; drug & alcohol treatment centers; healthcare facilities). Persons recently arrived from countries having high prevalence of TB. Medically underserved, low-income populations. Locally identified high-risk groups. Children and adolescents exposed to adults in high-risk categories.

PPD **AND** CXR

PPD (+/-) CXR Abnormal

PPD (-) CXR Normal

PPD (+) CXR Normal

If close contact, retest with PPD in 3 months; Consider initiating treatment for LTBI for close contacts who are immunocompromised or < 5 years old.

3 month PPD (-)** (Consider Stopping Treatment)

3 month PPD(+)

Refer for clinical evaluation and LTBI treatment

PPD (see reverse side for information and use of QuantiFERON)

Positive

Negative

CXR

Normal

Abnormal

No Further Action unless suspected anergy or clinical illness*

***Sputum Culture X 3: Early Morning Specimens on Different Days
Perform fluorochrome smear on concentrated specimen.
Inoculate rapid isolation liquid medium (radiometric / non-radiometric system) AND one solid medium

Smear (+)

Perform AMTD**** (1st time positive only)

Culture (-)

Culture (+)

Smear (-)

Culture (-)

Evaluate for empiric treatment, if clinically indicated

Perform Rapid ID (e.g. DNA Probe, NAP test)

TB

MOTT

Perform BACTEC or Plate Susceptibility Test

Species identification by: DNA Probes, HPLC, GLC or biochemical tests

Evaluate for Treatment

For patients with positive AFB smears at the time of diagnosis, collect sputums every 2 weeks until 2 consecutive specimens are smear negative

Collect sputums at monthly intervals until 2 consecutive specimens are culture negative. **NOTE:** If culture positive after 3 months, consider resistance, non-compliance, or non-absorption.

* See reverse side for discussion on PPD

** Consider stopping treatment if the PPD is negative at 3 months. If there should be continued exposure to an infectious case during that time, the more susceptible person may need to stay on medication longer.

*** Other specimens may be submitted for TB testing, e.g. bronchoscopically acquired specimens, pleural fluid, biopsies, etc.

**** AMTD (Amplified *M. tuberculosis* Direct Test) Use the first time the patient has a positive smear.

FOR EDUCATIONAL PURPOSES ONLY

The individual clinician is in the best position to determine which tests are most appropriate for a particular patient.

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INTERPRETATION OF TUBERCULIN **SKIN-TEST (PPD) RESULTS**

A. **≥5mm is positive** for: . Recent close contacts of persons with active TB . Persons with HIV infection . Persons with fibrotic CXR consistent with healed TB . Organ transplant recipients and other immunosuppressed patients	B. **≥10mm is positive** for persons who do not meet the criteria in (A.) and who belong to one or more of the following: . Injection-drug users . Persons with other medical conditions reported to increase risk of progressing from latent to active TB (see list in Group 2 box on the reverse side) . Residents/employees of high-risk congregate settings (i.e. correctional institutions, nursing homes, homeless shelters, drug & alcohol treatment centers, healthcare facilities) . Persons recently arrived from countries having high prevalence of TB (e.g. ≤ 5 years since arrival) . Medically underserved, low-income populations . Locally identified high-risk groups . Children of any age exposed to adults in high-risk categories	C. **≥15mm is positive** for persons with no risk factors for TB
ANERGY . Anergy testing is poorly standardized or can be selective (e.g. anergy or reactivity to mumps or candida may not reliably predict anergy or ability to respond to PPD). . Should not be routinely used as part of screening for TB even in HIV infected patients.	**BOOSTER EFFECT** . Persons with TB infection may have negative PPD when tested many years after infection . Initial PPD may stimulate (boost) ability to react to PPD . Positive reactions to subsequent tests may be misinterpreted as new infection . See Two-Step Testing	**TWO-STEP TESTING** For baseline skin testing of adults who will be retested periodically to distinguish boosted reactions from reactions due to new infections: . If first test is (+), consider person infected at baseline . If first test (-), give second test 1-3 weeks later . If second test (+), consider person infected at baseline . If second test (-), consider person uninfected at baseline

QuantiFERON (QFT): The Centers for Disease Control and Prevention (CDC) Guidelines for the use of QFT in diagnosing Latent *Mycobacterium tuberculosis* Infection (LTBI) can be found in the Morbidity Mortality Weekly Report (MMWR), January 31, 2003, Volume 52, pages 15-18 (http://www.cdc.gov/mmwr/PDF/rr/rr5202.pdf). CDC states that QFT can aid in detecting *M. tuberculosis* infections among certain populations who are at increased risk for LTBI including recent immigrants from countries with a high prevalence of TB infection, injection-drug users, residents and employees of prisons and jails, and healthcare workers that, after their pre-employment assessment, are considered at increased risk for exposure to TB. CDC states that QFT may also be used for military personnel screening, hospital staff and health-care workers whose risk of prior exposure to TB was low, and U.S.-born students at certain colleges and universities. The full text of the CDC document can be found at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5202a2.htm.

REFERENCES

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6. American Thoracic Society/CDC/Infectious Diseases Society of America: Treatment of Tuberculosis. 2003. Respir Crit Care Med, vol.167, pp 603-662.